# *Albemarle County Climate Action*

Albemarle County Climate Action Program

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# Discussion Goals

- Update Board on the activities of the Climate Action Program
- Review the use of funds set aside by the Board

# Agenda

- Introduction
- Where We Stand
- Past & Ongoing Work
- FY26 Work Plan

# Introduction

# Context

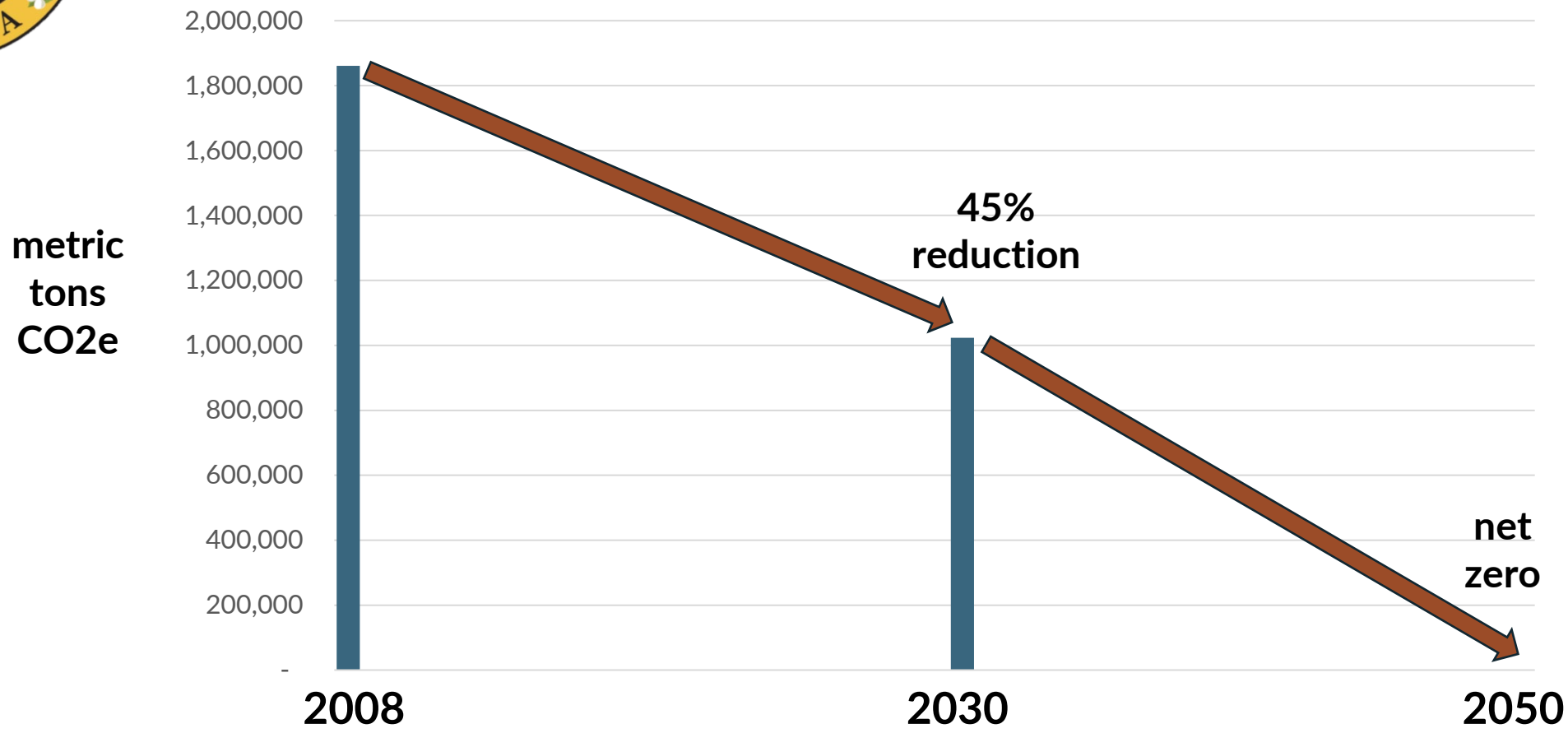
- Oct 2019 – BoS adopted GHG emissions reduction targets
- Oct 2020 – BoS adopted Climate Action Plan (CAP)
- Sep 2021 – BoS received Program update

# Global Context

- Global emissions continue to climb
- Experiencing impacts here & now
- Impacts will generally become worse and less predictable unless we equitably reduce emissions globally
- Climate change is not the problem, it's a symptom of a set of problems

# Where We Stand

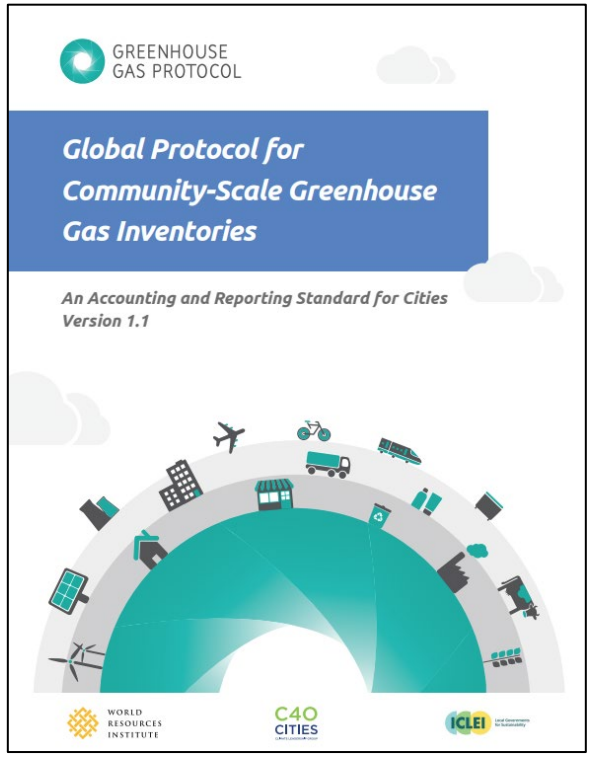
# Emission Reduction Targets



# Methodology

## Global Protocol for Community-scale Inventories

- Territory-based (activities with county)
- Does not capture all sources
- Refinements
  - 2020: waste, ag-activities, forests & trees
  - 2023: airport, Amtrak, wastewater



# Example

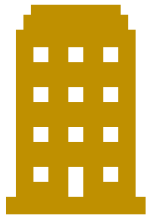

## Community Transportation (2022)

1.43 billion miles traveled → 71 million gallons of fuel → 644,000 t $CO_2e$

Notes:
1. Two-year typical data lag
2. CH4 and N2O are converted to CO2e

# Major Sectors of Emissions

Transportation



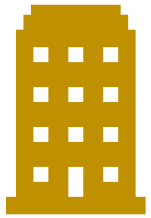
Stationary Energy

Ag, Forest, Land Use

Waste

# What Drives Emissions?

vehicle miles traveled
mode / vehicle efficiency



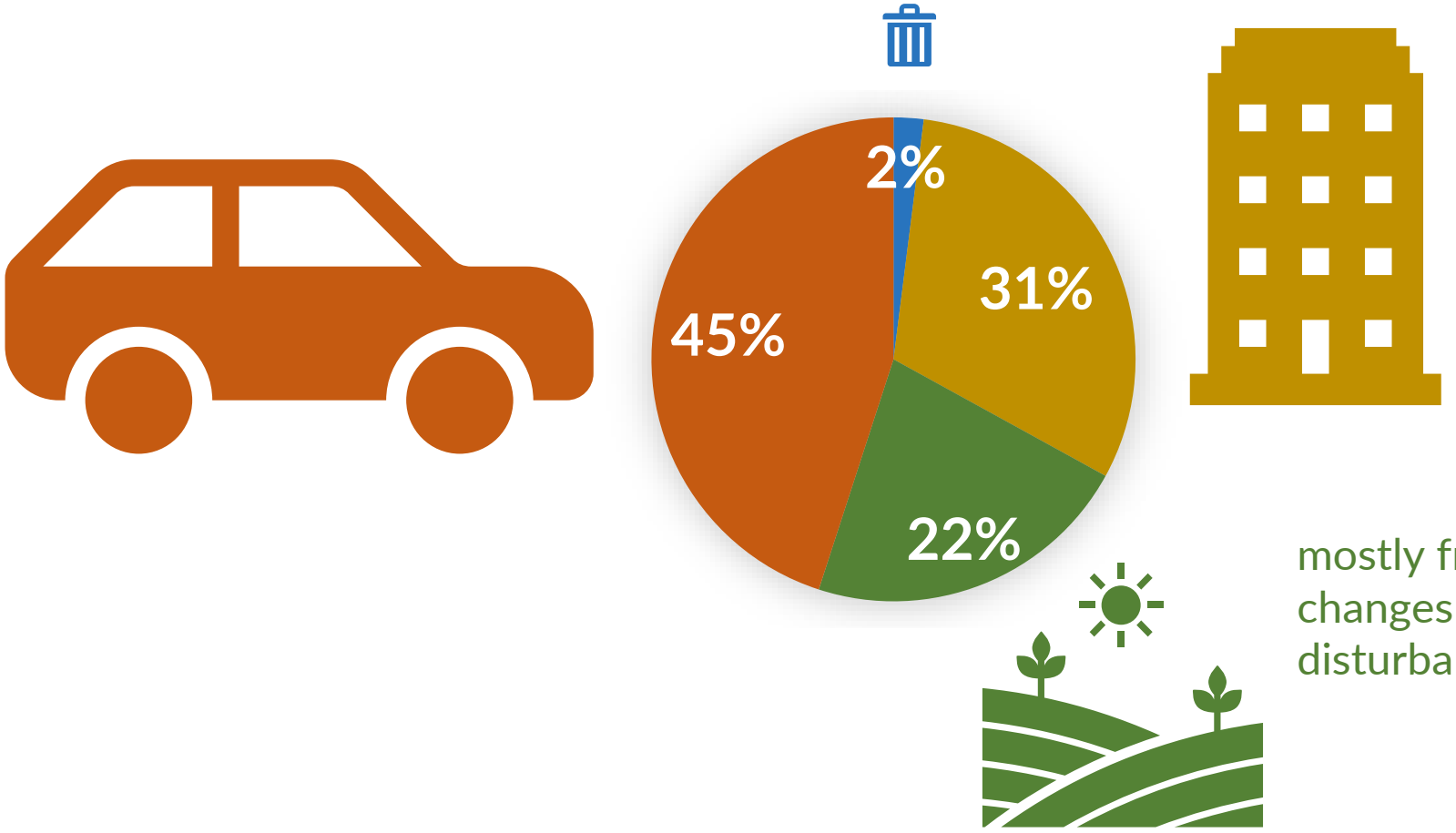
energy usage
energy sources
electric grid

livestock, equipment, ag BMPs
land cover and changes

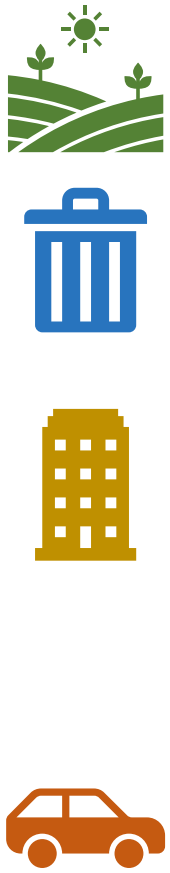
emissions or sequestration

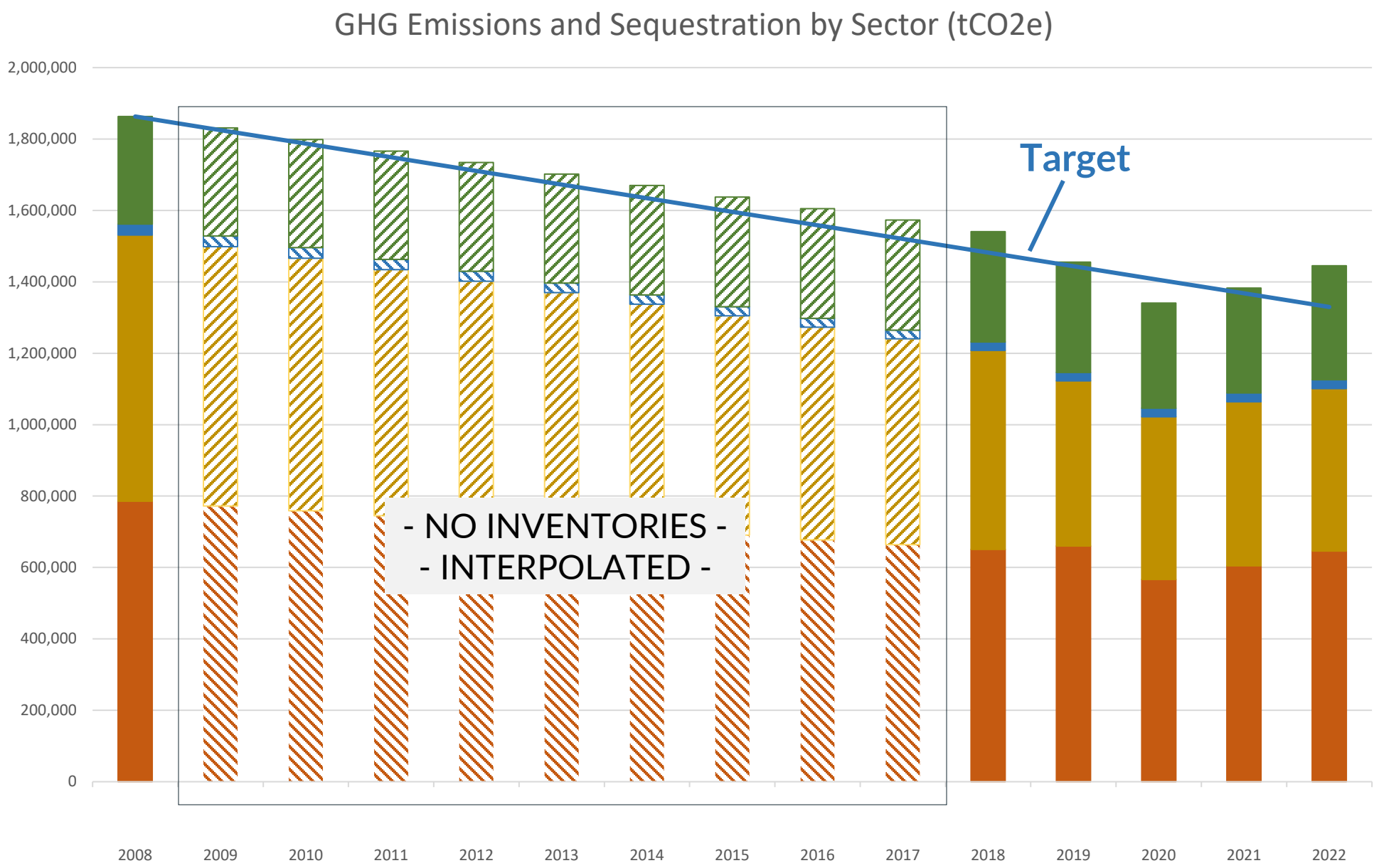
landfilled organic waste

# 2022 Emissions Proportions



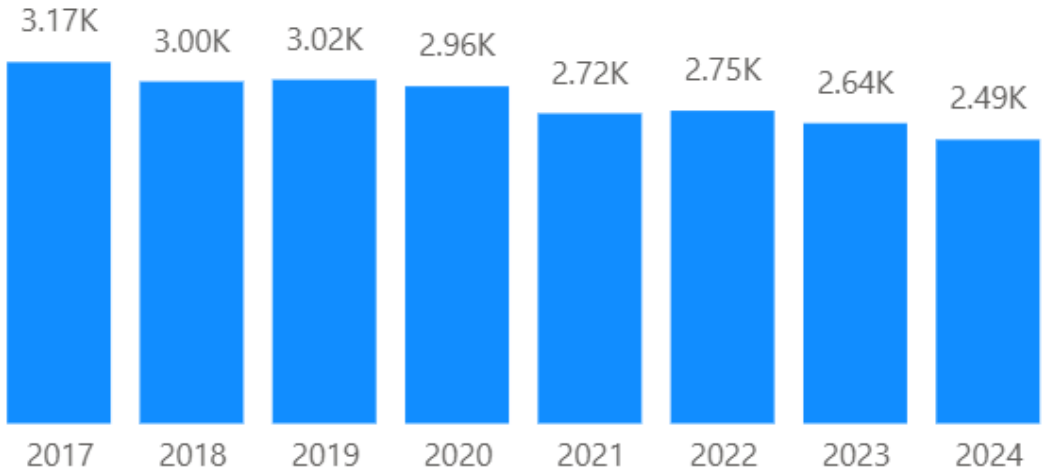

mostly from land use changes and forest disturbances




GHG Emissions and Sequestration by Sector (tCO2e)
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Target
- NO INVENTORIES -
- INTERPOLATED -
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

# Local Government

**County-operated buildings energy use – Total Annual Emissions**

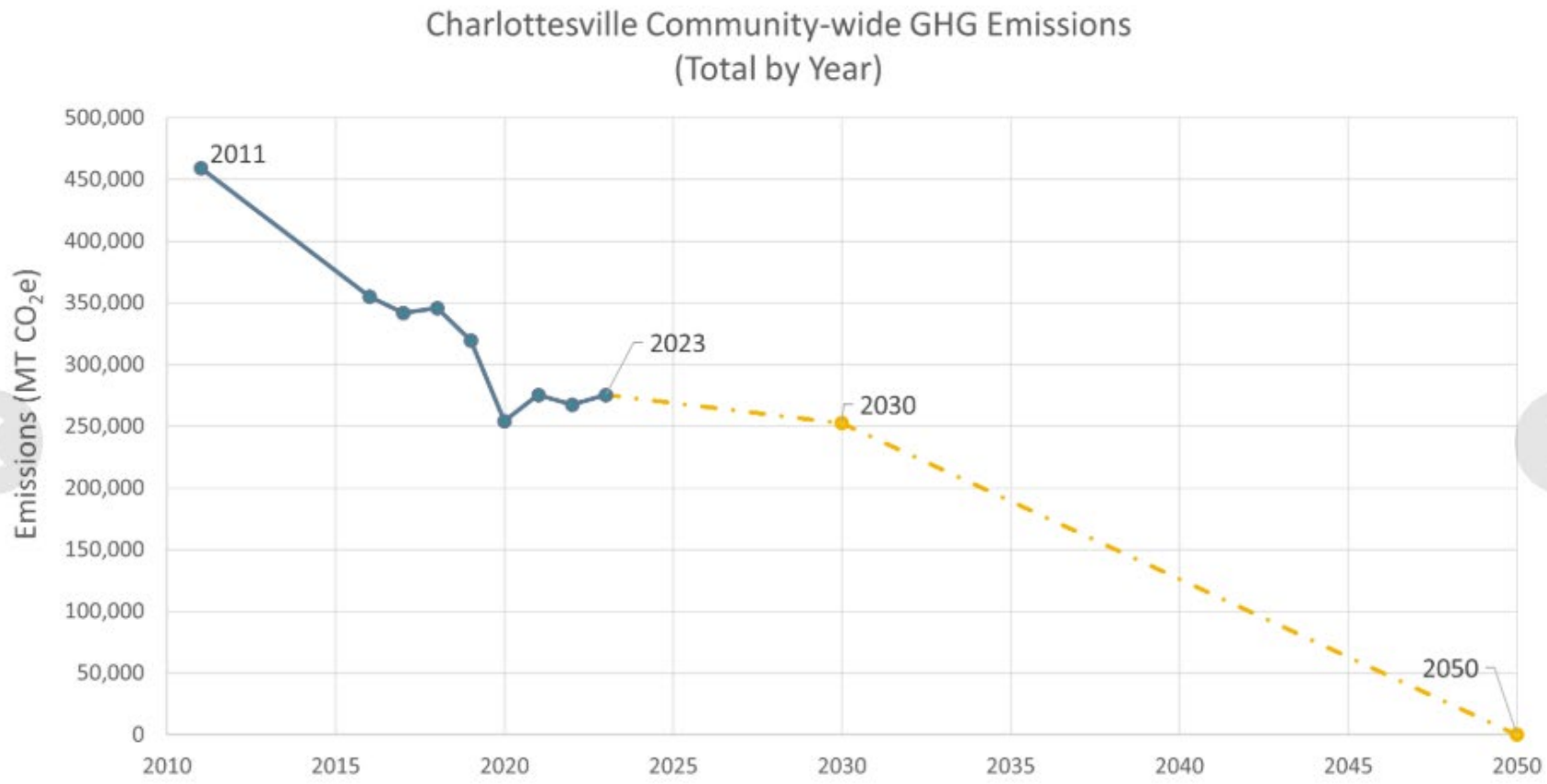



| Year | mtCO2 | % Change |
|---|---|---|
| 2017 | 3,174 | |
| 2018 | 3,004 | -5.4% |
| 2019 | 3,020 | 0.6% |
| 2020 | 2,962 | -1.9% |
| 2021 | 2,724 | -8.0% |
| 2022 | 2,747 | 0.9% |
| 2023 | 2,637 | -4.0% |
| 2024 | 2,494 | -5.4% |

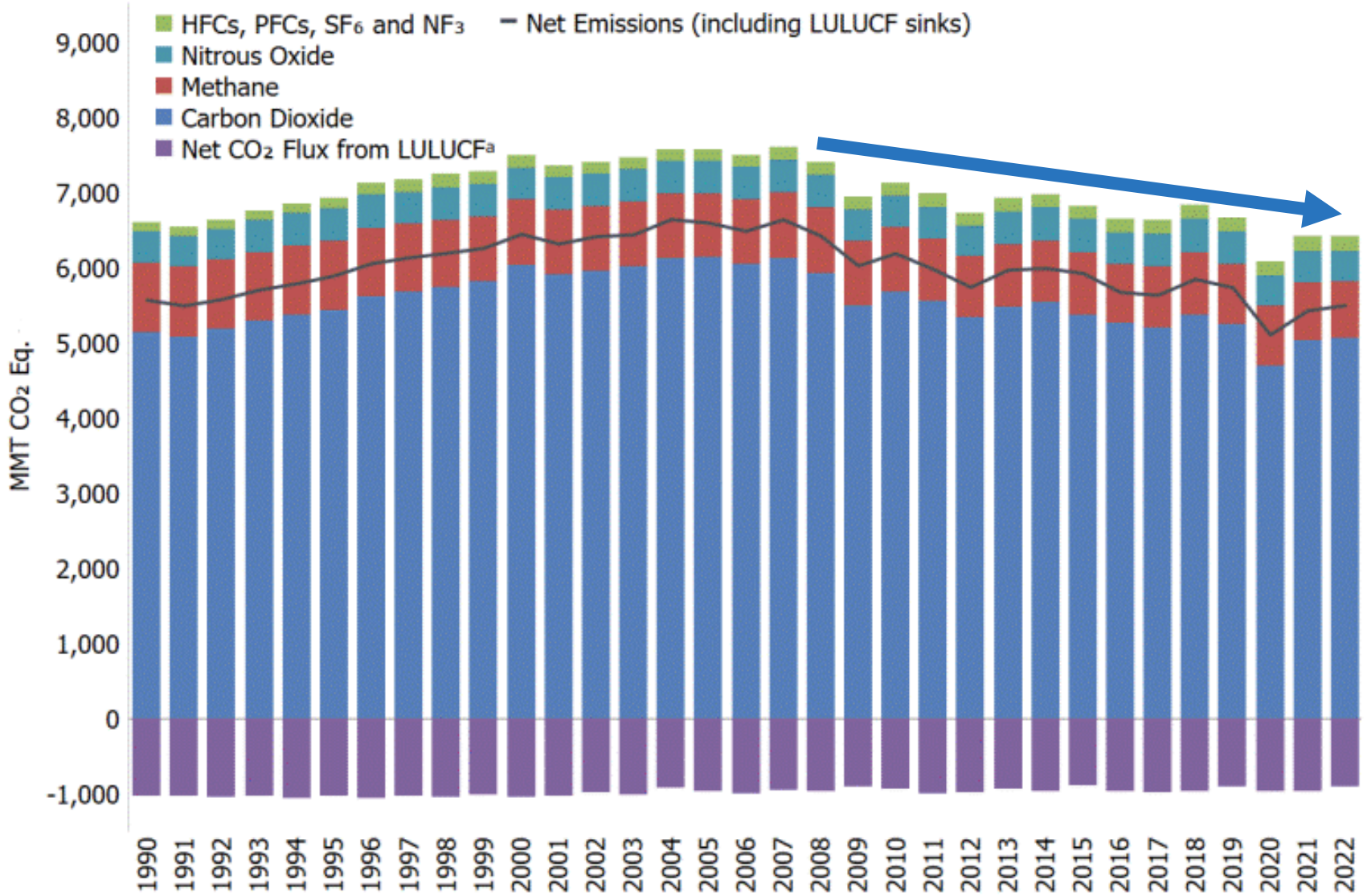
**2024 vs 2017**

**-21.4%**

Data from Charlottesville's 2023 GHG Inventory

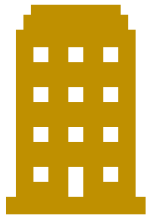


## Figure ES-1: U.S. Greenhouse Gas Emissions and Sinks by Gas



# What Drives ~~Emissions~~ Reductions?

vehicle miles traveled - decrease
mode / vehicle efficiency - improve



energy usage - decrease
energy sources - transition to electric
electric grid - more renewables

livestock, equipment, ag BMPs - improve
land cover and changes - minimize loss

landfilled organic waste - decrease

# Past & Ongoing Work

# Examples of Key Projects ('21-'25)

- **AC44 content support**
- **ACPS's Advisory Committee on Environmental Sustainability**
- Supporting AHIP and LEAP home energy efficiency improvements
- **Climate Action Activity Kits through C3**
- C-PACE ordinance adoption
- **Community Climate Action Grant Program ($200k)**
- Community education, workshops, etc. (e.g., Solar for Rural Businesses)
- Community EV chargers at COBs and Fee Adoption
- **COB 5th Street energy efficiency improvements and rooftop solar**
- Electric & reduced mowing
- **Energy Resource Hub**
- **Solar ordinance**

# AC44 Content Support

- Housing Objective 3 - Increase long-term affordable and workforce housing options in Albemarle County through the development of new units and the preservation of existing units.
- If the percentage of the workforce that lives in the development areas increased from 35% to 70%, then we could reduce our transportation emissions by 227,534 tons/yr., or 35.2%.

**11.3 tons per person**

# Grant to IRC New Roots

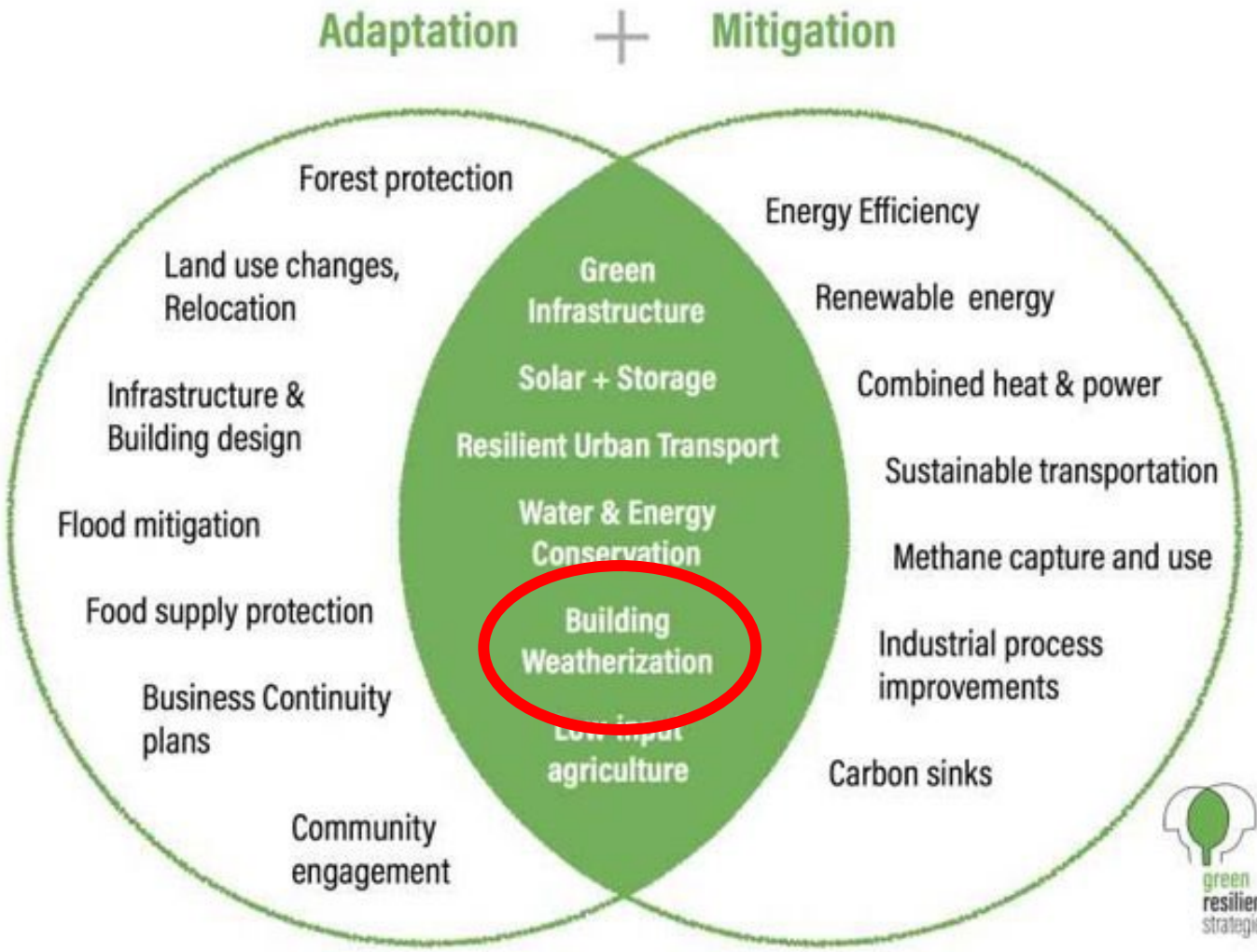
- $25,000 to support equipment electrification and beneficial agricultural practices
- 25 tons $CO_2$ sequestered annually from composting practices at New Roots Farm
- 5 tons avoided emissions from removing synthetic fertilizers from farm operations
- 50-80cc engine emits 72g per day --> 8 tons / yr.

**38 ton annual reduction**

# Climate Adaptation Planning

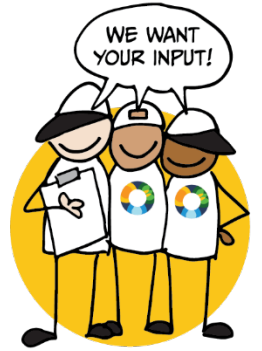
- Assumes that impacts from climate change are baked in due to our collective inaction over five+ decades
- Mitigation must still be the central strategy, and there is quite a bit of overlap
- Adaptation allows us to be resilient in face of increasing hazards

# Mitigation-Adaptation Venn




# RESILIENT TOGETHER

Charlottesville & Albemarle




"THE TEAM"
ALBEMARLE COUNTY
CITY OF CHARLOTTESVILLE
UNIVERSITY OF VIRGINIA

## 1. DISCOVER

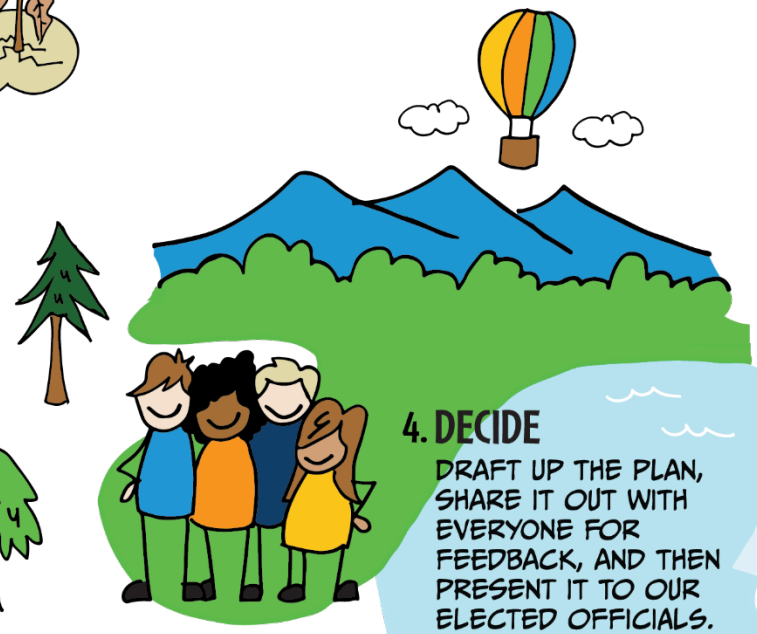
BUILD RELATIONSHIPS, SHARE STORIES, AND GET TO KNOW EACH OTHER'S EXPERIENCES.

## 2. DEFINE

SET THE STAGE AND OUTLINE WHAT WE'RE AIMING FOR WITH OUR CLIMATE RESILIENCE PLANS.

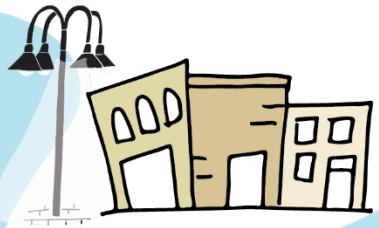
## 3. DESIGN

BRAINSTORM, COLLABORATE, AND FIGURE OUT THE BEST STRATEGIES TO HELP OUR COMMUNITY BUILD RESILIENCE.



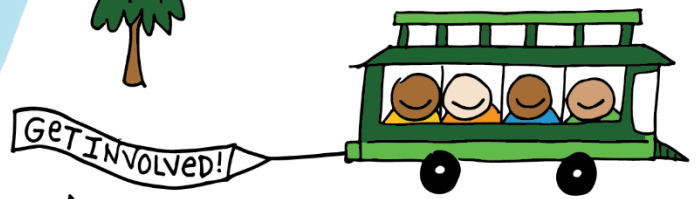
## 4. DECIDE

DRAFT UP THE PLAN, SHARE IT OUT WITH EVERYONE FOR FEEDBACK, AND THEN PRESENT IT TO OUR ELECTED OFFICIALS.



## 5. DO

PUT OUR PLAN INTO MOTION, MONITOR SUCCESS, AND LOOK FOR WAYS TO IMPROVE.




**Working together to build a safe future.**

RESILIENT TOGETHER
Charlottesville & Albemarle

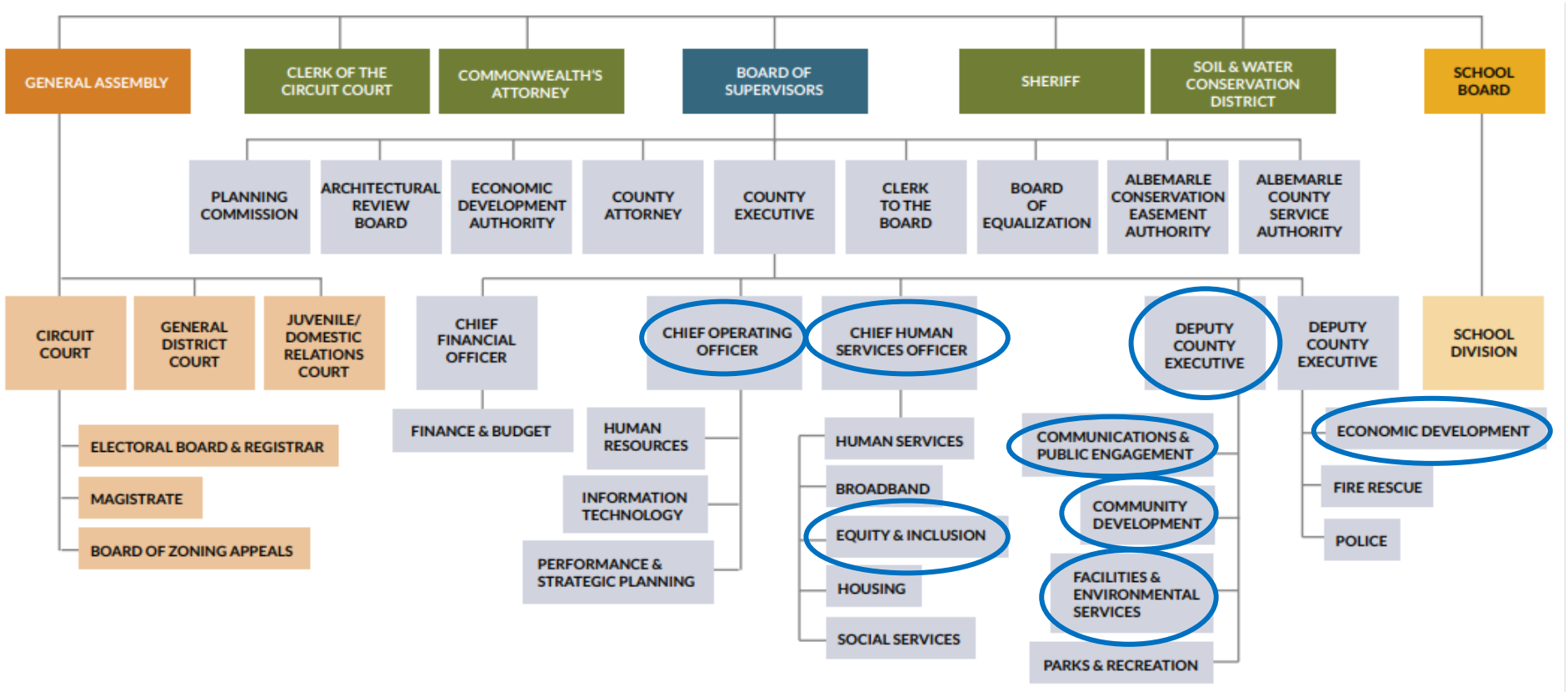
# Climate Resilience Cohort

- Many communities have historically been left out of government planning processes
- Need to change the relationship between government and those communities
- Cohort of several community-based orgs that serve marginalized community members
- County & City supporting Cohort participation following termination of EPA grant

# Climate Action Leadership Team

- Need to elevate climate action from a program priority to an organization priority
- Create leadership intent around climate action
- Look for inter-departmental opportunities and priorities
- Receive guidance from staff leadership

# Climate Action Leadership Team



# FY26 Work Plan

# Funded Projects - Context

- Carry-over Funds: ~$222,000
- FY26 Funds: $300,000
- Emphasize greatest emissions reductions within FY26

# Proposed Funded Projects

| Project | Approx. Cost |
|---|---|
| Residential Energy Improvements* | $237,000 |
| County building energy efficiency | $100,000 |
| Energy Resource Hub | $63,000 |
| Climate Action Collaboration Initiative | $72,000 |
| Climate Resilience Cohort Support | $50,000 |
| **TOTAL FUNDING** | **$522,000** |

* Office of Housing is contributing an additional $150,000 of Community Development Block Grant funds to this project.

# Residential Energy Improvements

- Community emission reductions
- $387,000 = $237,000 + $150,000 from Housing
- LEAP and AHIP implementing partners
- HVAC equipment and home envelope
- Prioritizing homes under 50% AMI
- Reaching 50 homes reduces annual stationary emissions by 0.02% at $3,000 per ton

**1.5 ton annual reduction / household**

# Gov't Building Energy Efficiency

- County government emission reductions
- $100,000
- Led by Facilities & Environmental Services
- Possibly LED fixture installments
- Transitioning the equivalent of Northside Library to LED fixtures would reduce annual stationary emissions by 0.03% at $700 per ton

**143 ton annual reduction**

# Energy Resource Hub

- Community emission reductions
- $63,000, following $100,000 initial investment
- Matched by City; LEAP & C3 partners
- Leverage gov't & utility incentive programs
- Efficient equipment, envelope, & solar
- Reaching 280 homes will reduce emissions by 1,400 tons $CO_2e$ at $35.71/ton, or 0.3% annual stationary emissions

**5 ton annual reduction / household**

# Climate Action Collab. Initiative

- County Gov. and Community emission reductions
- ~$70,000
- Could include internal and/or external partners
- Leverage other funds to achieve goals in few priority areas (e.g., equipment electrification)
- Priorities:
  - Tree canopy
  - Equipment electrification
  - Native re-vegetation w/ reduced mowing
  - Community Bikes

**Annual reduction depends on final invenstments**

# Strategic Projects (FY26)

## (no funding required)

- Resilience Planning through Resilient Together
- County Code Review (Ch. 18)
- Internal Climate Action Support
- Sustainable Operations
- Charging Smart / SolSmart
- Community Composting

# Way Forward

- Execute FY26 projects
- Develop climate-smart vision for 2050
- Focus on staff advisory services model
- Focus climate action on root causes
- Focus climate action according to emissions inventories
- Implement Adaptation & Resilience Plan

# Discussion

- Board feedback and questions about the Climate Action Program or the proposed use of Climate Action Funding Pool in FY26